



Nursing Care for Unstable Angina Pectoris with the Intervention of Foot Massage Techniques to Reduce Pain Scale

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ABSTRACT

Unstable angina pectoris or angina sitting is a chronic syndrome in which the client gets a typical attack of left chest pain, which is like being pressed, stabbed. Based on data from the World Health Organization (WHO) in 2015 it showed that as many as 17.5 billion people in the world died from cardiovascular disease. Indonesia ranks fourth as the country with the highest number of deaths from cardiovascular disease. The main symptom that often appears is chest pain, and one of the non-pharmacological techniques that can be used to reduce pain is non-pharmacological foot massage techniques. **The objective** of this study aims to present care with foot massage technical interventions to overcome chest pain scales, pain scale measurement tools using the Numerical Rating Scale (NRS) for Unstable Angina Pectoris clients with acute pain in the Memory Room of the Banjar City Hospital. **The research design method** used is descriptive analysis with a case study approach. Subjects in this case study were adult patients who experienced Unstable Angina Pectoris with acute pain problems. Data collection techniques include interviews, observation, physical examination and documentation studies. **Result** The results of the case study at the assessment stage found that the client complained of chest pain. The intervention and implementation used to reduce chest pain is by giving foot massage techniques for 60 minutes when chest pain complaints. After the intervention, the client's pain scale decreased from 4 (0-10) to 1 (0-10), while subjective data from anamnesis showed that the client said chest pain had decreased. **Conclusion** The conclusion of nursing care in patients who experience Unstable Angina Pectoris with chest pain problems is well resolved. Intervention of foot massage technique is effective against pain scale.

Keywords: acute pain, foot massage technique, unstable angina pectoris

Introduction

Cardiovascular disease is the leading cause of death worldwide, accounting for 31% of all deaths. Data published by the World Health Organization (WHO) in 2015 shows that up to 17.5 billion people worldwide die from cardiovascular disease (Audia & Purdani, 2018). Indonesia has the fourth highest cardiovascular disease mortality in the world, this heart disease will cause a burden of morbidity, disability and socio-economic burden for families (Aziz et al., 2019). The CHD mortality rate in Indonesia is very high, reaching 1.25 million people amid Indonesia's population of 250 million people. Coronary heart disease (CHD) includes congestive heart failure (CHF), unstable angina pectoris (UAP), arrhythmias, endocarditis, pericarditis, cardiomyopathy (Dayanti & Masnina, 2018). From the results of the 2019 National Riskesdas it showed that the prevalence rate of heart disease in Indonesia was 1.5% with the highest order being North Kalimantan 2.2% and the lowest East Nusa Tenggara 0.7%, from the results of Riskesdas NTT it was also found that data aged 65-74 years were more at risk of heart disease, with a prevalence of 2.24% (Studi et al., 2022). Meanwhile in West Java in 2020 with a prevalence of 73,285 people or 1.6% of people with heart failure (Vlachopoulos et al., 2021). So one of the coronary heart diseases is Unstable Angina Pectoris (UAP) with proven research data, in West Java in 2020 with a prevalence of 73,285 people or 1.6%.

Unstable angina pectoris (UAP) is a chronic syndrome in which the client experiences attacks of pain in the left chest that feels like being pressed, stabbed or crushed by a heavy object. Chest pain often radiates to the back and then to the left arm, occurs during activity and disappears when activity stops (Rahman & Dewi, 2023). Unstable angina pectoris (UAP) is a chronic syndrome in which the client experiences attacks of pain in the left chest that feels like being pressed, stabbed or crushed by a heavy object. Chest pain often radiates to the back and then to the left arm, occurs during activity and disappears when activity stops (Nugraheni et al., 2022). However, if the coronary arteries cannot dilate due to increased oxygen demand, myocardial ischemia (lack of blood supply) results. The presence of damaged endothelium causes decreased production of NO (nitric oxide), which inhibits various reactive substances. Cardiac muscle cells use anaerobic glycogen to meet their energy needs. This metabolism produces lactic acid, which lowers the pH of the heart muscle and causes pain (Vlachopoulos et al., 2017).

Pain is the body's defense mechanism that occurs when tissue is damaged and can cause a person to respond by removing painful stimuli. Often described as a destructive process, tissue is prickling, burning, stinging, fear, emotional feelings and often nausea. Pain is usually described as an uncomfortable condition resulting from tissue damage. Pain can be caused by several things, namely trauma, inflammation (inflammation), tumors (benign and malignant), circulatory disorders and blood vessels, and psychological trauma (Sari & Arfania, 2023).

Untreated Unstable Angina Pectoris (UAP) Acute Pain causes a stabbing sensation in the chest, tightness in the chest, shortness of breath accompanied by cold sweat, and

feelings of fear (Rahman & Dewi, 2023). Acute pain is pain that occurs suddenly and quickly disappears, lasts no more than 3 months, and is characterized by an increase in muscle tendons. Acute pain is caused by inflammation or tissue damage (Kristiara Yoga, 2019). Acute pain can be described as pain that occurs after an acute injury, illness, or surgical procedure, has a rapid onset, varies in intensity (mild to severe) and is short lived (less than 3 months). Acute pain is usually short-lived. Patients with acute pain usually experience increased sweating, increased heart rate and blood pressure, and pallor (Mathematics, 2020). According to PPNI (2019), acute pain is a sensory or emotional experience associated with real or functional tissue damage that starts suddenly or slowly and is mild to severe and lasts less than 3 months (Mathematics, 2020).

From the results of research conducted by Nugyawati in 2018, "Foot massage therapy can reduce pain scale in Unstable Angina Pectoris (UAP) clients", in her literature review concluded that foot massage techniques can treat chest pain in Unstable Angina Pectoris (UAP) clients (Hartatik & Sari, 2021). There are many ways that can be used to reduce pain and one of them is the non-pharmacological foot massage technique for Unstable Angina Pectoris (UAP).

Foot massage technique is a non-pharmacological method that is safe and easy to do, and its effect can increase blood circulation, eliminate metabolic waste, increase joint movement, reduce pain, relax muscles and provide a sense of comfort to the client (Widi Lestari et al., 2017). Foot massage is the soft tissue of the feet that massages certain points on the soles of the feet that are related to other parts of the body. The purpose of foot massage is to lower blood pressure, reduce heart pumping activity and reduce contraction of small artery walls, so that pressure on blood vessel walls is reduced (Ariani & Suryanti, 2019).

The process of foot massage techniques, namely: Close the curtains and the door of the client's room, the nurse washes hands, put a large pad under the client's feet, place a towel under the heel and then rub both palms with lotion or baby oil, do foot massage starting from the fibula then the soles of the feet to the plantar aspect then to the tendons up to the toes for 60 minutes, place it and then cup our hands around the sides of the right foot, relax the fingers and move the hands forward and backward quickly, this will make the feet relax, let hand still holding the top of the foot, slide the left hand down the heel of the foot, gently pull the foot towards the massager starting from the heel. With an oval motion, turn your feet several times in each direction, hold your partner's feet with your thumb on top and forefinger at the bottom, then using your thumb, press the muscles starting from the network between the big toe and forefinger. Press between the muscles with the thumb. Repeat this movement for each indentation, holding the heel of the foot with the right hand, use the thumb and forefinger of the massager's left hand to pull the foot and squeeze the toes. Then place the massager's thumb on the toe and forefinger below it. Then massage and pull the tip with the same movement massage the sides of the fingers. Perform this movement on the other finger, ask the client how he feels. Foot massage techniques can decrease pain scale in Unstable Angina Pectoris (UAP) clients (Pasien et al., 2020).

Based on the description above, the authors are interested in making a case study with the intervention of the Foot Massage Technique as an effort to reduce the pain scale in Unstable Angina Pectoris (UAP) clients.

Objective

The purpose of this case study is to present nursing care with the intervention of foot massage techniques as an effort to reduce the pain scale of Unstable Angina Pectoris (UAP) clients.

Method

This causal study uses a descriptive analysis method, which is a research method conducted with the aim of creating an in-depth picture of a situation objectively using a case study approach (Nurmalasari & Erdiantoro, 2020). Case study is research that studies intensively about the background of the problem, the situation and the position of an event. The subject of this research can be individuals, groups, institutions or society. Data collection was obtained from interviews, observation and documentation (Assyakurrohim et al., 2022). The approach used is the nursing care approach which includes assessment, nursing diagnosis, planning, implementation, and evaluation (Awaliah & S, 2023). In this case study the researcher explored nursing care that was carried out for 3 days in providing non-pharmacological interventions with foot massage techniques to reduce pain scale in Unstable Angina Pectoris (UAP) clients with acute pain in the Kenanga Room of the Banjar City Hospital.

In enforcing nursing diagnoses and determining interventions to be applied the author uses the book Indonesian Nursing Diagnosis Standards (IDHS), Indonesian Nursing Intervention Standards (SIKI) and Indonesian Nursing Outcome Standards (SIKI). When the book is used as a guide in the implementation of nursing care. Nursing implementation and evaluation is documented using the SOAP method.

Results

Client Mr. R is 38 years old from Sukalayu Village, Mangunreja District, RT 06 RW 03 Tasikmalaya, with a medical diagnosis of Unstable Angina Pectoris. With the main complaint felt by Mr. R, namely left chest pain. Mrs. L is the person in charge of the client as well as the wife of the client. the client and family came to the Kenanga Room at the Banjar City Hospital on May 29 2023 at 07:30 WIB with complaints of left-sided chest pain due to too much activity. The main complaint that appears is chest pain on the left like being hit by an object, pain radiating to the back was felt about 3 months ago before going to the hospital. Nurses take action to monitor vital signs, check EkG, give analgesic drugs. And also practicing foot massage techniques to relieve pain in Unstable Angina Pectoris clients.

During the assessment on Tuesday, May 30, 2023 at 10:30 WIB the client complained of chest pain on the left side, the client looked grimacing the client said he was weak during activities, dizzy, the client looked weak, chest pain was felt during activities and decreased

when resting and after being given medicine. Pain felt 4 (0-10). At the time of physical examination, Mrs.R found that the general condition of the patient was limp and chest pain, Composmentis awareness, blood pressure 120/80 mmHg, respiration 20x/minute, pulse 94x/minute, temperature 36.1°C, SpO2 98%. At the time of examination of the cardiovascular system gallop heart sound, there is left chest pain with a pain scale of 4 (0-10).

The pharmacological therapy that has been given by the doctor includes Ringer Lactate infusion 500 ml, ISDN (Isosobrid dinitrate) 5 mg sublingual, 1x1 oral aspirin, 1x1 oral CPG, 1x1 oral Ramipril. Non-pharmacological therapy carried out by the family for Mr. R is by providing foot massage techniques to reduce pain scale.

The results of a laboratory examination were obtained from Tn.R on May 29, 2023 with results showing abnormalities, namely APTT, erythrocytes, INR, creatinine, creatinine clearance, and GDS. In the type of examination, abnormalities in the examination results can be seen in the following table: The results of a laboratory examination were obtained at Tn.R on May 29, 2023 with results showing abnormalities, namely APTT, erythrocytes, INR, creatinine, creatinine clearance, and GDS. In the type of inspection Abnormal examination results can be seen in the following table:

Table 1. Laboratory Examination Results

Inspection	Results	Normal Value
APTT	26.3	28,9-41.6 detik
Eritrosit	5.2	4.1~5.1 juta /uL
INR	0.80	0.83-1.20 detik
Creatinin	1.4	0.8-1.3 mg/dl
Creatinin clearance	41	90-120 ml/min
GDS	98	<140 mg/ dl

Data Analysis and Nursing Diagnosis

Based on the results of the assessment obtained from the client, the client's family and the client's medical record records, the author can determine a nursing diagnosis using the 2017 Indonesian PPNI Indonesian Standards for Nursing Diagnosis (SDKI) book 1st edition print III revision.

After conducting an assessment on Mr.R based on the results of data analysis, the diagnosis that emerged was acute pain related to physiological agents of injury (ischemic and decreased oxygen supply to muscles with myocardial tissue) diagnosis number D.0077 page 172. With atherosclerosis or spasm etiology then coronary artery O2 flow decreases blood vessels then unstable angina pectoris occurs Heart oxygen deprivation then Heart muscle ischemia Occurs anaerobic metabolism There is an increase in lactic acid then pain receptors feel Chest pain and a diagnosis of acute pain.

Subjective data The client says left chest pain is like being hit by an object, pain is felt when doing activities and decreases when resting. And objective data, the client looks

grimacing, pain scale 4 (0-10), heart sound gallops, vital signs T : 36.1°C, P : 94x/minute, R : 20x/minute, S : 120/80 mmHg, SPO2 : 98%.

Intervention

Nursing interventions and activities need to be determined for the improvement, improvement, and healing of clients. The following are interventions for patients with Unstable Angina Pectoris based on the Indonesian Nursing Outcome Standards (SLKI) and the Indonesian Nursing Intervention Standards (SIKI) PPNI edition I print II 2017

Table 2. Nursing interventions for Unstable Angina Pectoris clients

Nursing diagnoses	Objectives and Outcome Criteria (SLKI)	Intervention (SIKI)
Acute Pain (D.0077)	<p>Page Pain Control 58 (L: 08063)</p> <p>After carrying out nursing actions for 3 x 24 hours it is hoped that the pain will disappear.</p> <p>Expectations: decreased</p> <p>Result criteria:</p> <ol style="list-style-type: none"> 1. Reported increased controlled pain (5) 2. Ability to recognize the onset of pain increases (5) 3. The ability to recognize the cause of pain increases (5) 4. Ability to use non-pharmacological techniques increases (5) 5. Complaints of pain decrease (5) 	<p>Pain Management: (I.08238) Page 201</p> <p><i>Observation :</i></p> <ol style="list-style-type: none"> 1. Identify the location, duration, frequency, quality, intensity of pain 2. Identify the pain scale 3. Verbally identify pain response 4. Provide non-pharmacological techniques, foot massage techniques 5. Monitor vital signs <p><i>Therapeutic</i></p> <ol style="list-style-type: none"> 1. Provide non-pharmacological techniques to reduce pain 2. Control the environment that aggravates the pain 3. Facilitate rest and sleep <p><i>Education</i></p> <ol style="list-style-type: none"> 1. Describe the causes and triggers of pain 2. Describe pain relief strategies 3. Suggest using analgesics appropriately 4. Teach non-

pharmacological
techniques to reduce
pain

Collaboration

1. Collaborative
administration of
analgesics, if necessary
-

Implementation

Implementation of nursing was carried out on May 30, 2023 at 10:30 WIB with the results: Identifying the location, duration, frequency, quality, intensity of pain results: pain felt in the left side of the chest like being hit by an object, identifying pain scale results: pain scale score 4 (0-10), providing non-pharmacological techniques, foot massage techniques results: client and family cooperative client by following foot massage techniques, monitoring vital signs result: Sphygmomanometer: 120/80 mmHg pulse: 94 x/minute respiration : 20 x/minute temperature : 36,10C SPO2 : 98%, identification of heart sound result : gallop heart sound, collaborating giving analgesics if necessary result : doctor gives isosobrid dinitrate drug 5 mg dose to relieve pain.

Evaluation

The nursing evaluation was carried out on June 1 2023 where the problems experienced by the client have been resolved, the client says there is no left chest pain, the client is no longer grimacing, pain scale 1 (0-10), lup dup heart sound, vital signs are normal, chest pain is felt during activities and decreases when resting.

There is also another way, namely with a formative evaluation by monitoring the client's progress notes which was carried out on 31-05-2013 showing good results. The results of the intervention by providing foot massage techniques which were carried out for 60 minutes within 3 days, namely before the action was taken the client said left chest pain, the client said chest pain increased when there were lots of activities. After the intervention of foot massage techniques for 3 days the client has done foot massage independently.

Progress Note

On the first day the client says left chest pain, the client looks grimacing, pain scale is 4 (0-10) there is pain in the left side of the chest gallop heart sound. On the second day, the client says that the left chest pain has decreased, the client is no longer grimacing, the pain scale is 3 (0-10) decreased, there is pain in the left side of the chest, LUP DUP normal heart sounds. On the third day, the client said that he had no chest pain on one side, the client was no longer wincing, the pain scale was 1 (0-10) decreased, there was pain in the left side of the chest, LUP DUP heart sounds. This shows the effectiveness of the foot massage technique in reducing the pain scale in patients with Unstable Angina Pectoris.

Discussion

After carrying out nursing care on Mr.R, the author describes the suitability between the theoretical review and the existing case review. To facilitate discussion, the author uses a nursing care process approach that starts with the assessment process up to nursing evaluation.

In accordance with the results of the study conducted on Tn.R with Unstable Angina Pectoris, at the time of the assessment the results showed that the client complained of feeling for the left chest, the client looked grimacing, the client said he was weak during activities, dizzy, the client looked weak, chest pain was felt when doing activities and decreased when resting and after being given medicine. Pain felt 4 (0-10). This is in line with the results of Nugiwati's research in 2018 which stated that someone who has a medical diagnosis of Unstable Angina Pectoris will show a tent or main symptom of left chest pain (Hartatik & Sari, 2021).

According to the results of the examination of Mr. R who suffered from unstable angina, at the time of evaluation it was found that the client complained of finding the left breast, the client winced, the client said he was weak during activities. Dizzy. , the client looks weak, chest pain is felt during exercise and subsides at rest and after drug administration. Pain felt 4 (0-10). This is in accordance with the findings of a 2018 study by Nugiwati which found that a person with a medical diagnosis of unstable angina has the main symptom or symptoms of left chest pain (Hartatik & Sari, 2021).

There are many ways that can be used to reduce pain and one of them is the non-pharmacological foot massage technique for Unstable Angina Pectoris (UAP). It can be seen from the progress notes on Tn.R which showed good progress (progress) in the left chest pain he felt and the pain scale decreased from 4 (0-10) to 1 (0-10). There was a significant change in the evaluation results during the foot massage technique intervention for 3 days.

Foot massage technique is a non-pharmacological way that is safe and easy to give and has the effect of increasing circulation, removing metabolic waste, increasing joint range of motion, reducing pain, relaxing muscles and providing a sense of comfort to the client (Widi Lestari et al., 2017). Foot massage can manipulate the soft tissue on the feet in general and is not focused on certain points on the soles of the feet that are related to other parts of the body (Ariani & Suryanti, 2019).

On the first day of intervention on July 30, 2023, the client said left chest pain, the client looked grimacing, a pain scale of 4 (0-10) there was pain in the chest to the left of a gallop heart sound. On the second day, the client says that the left chest pain has decreased, the client is no longer grimacing, the pain scale is 3 (0-10) decreased, there is pain in the left side of the chest, LUP DUP normal heart sounds. On the third day, the client said that he had no chest pain on one side, the client was no longer wincing, the pain scale was 1 (0-10) decreased, there was pain in the left side of the chest, LUP DUP heart sounds. This shows the effectiveness of the foot massage technique in reducing the pain scale in patients with

Unstable Angina Pectoris. For intervention foot massage techniques can reduce pain scale. With the results: The first day the client feels pain stimulation and is still assisted by the family with a scale of 4 (0-10), the second day of foot massage the pain has decreased with a scale (0-3) the client can massage the feet independently, the third day the client is not painful to feel pain with a scale of 1 (0-10). The client has massaged his feet independently.

The results of research conducted by Nugyawati in 2018 regarding "Massage Therapy Can Reduce Pain Scale in Unstable Angina Pectoris (UAP) Clients" in her research using literature studies it can be concluded that giving foot massage techniques is able to overcome chest pain problems in Unstable Angina Pectoris (UAP) clients (Santosa & Rahayu, 2020).

Conclusion

The results of the implementation of the Foot Massage Technique can provide positive results on reducing the pain scale on Unstable Angina Pectoris clients. Implementation of foot massage techniques for Unstable Angina Pectoris clients with left chest pain problems with a pain scale of 4 (0-10), carried out for 3 days for 60 minutes of massage which showed results that were in line with expectations, namely reduced or disappeared pain, the client looked calm, decreased pain complaints, increased ability to recognize pain onset, increased ability to recognize causes of pain, ability to use non-pharmacological techniques.

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